DIRECT TESTIMONY OF

DEAN KOUJAK

ON BEHALF OF

DOMINION ENERGY SOUTH CAROLINA, INC.

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is D. Dean Koujak. My business address is 685 Third Avenue, 14th Floor, New York, NY 10017.

Q. BY WHOM YOU ARE EMPLOYED AND IN WHAT CAPACITY.

A. I am employed by Guidehouse, Inc. as a Director.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I have over 17 years of experience in the electric power sector, all of which was while employed with Guidehouse, Inc. and a predecessor firm, Navigant Consulting, Inc. During this time, I have worked predominantly with Utilities as a power procurement advisor, administrator, independent monitor in multiple jurisdictions predominantly covering renewable energy transactions across the U.S.

and Canada. I hold a B.S. in Engineering Management from NYIT, an MBA from SUNY Stony Brook, and JD from Hofstra University.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA ("COMMISSION")?

A. No. I have provided testimony in the states of Arizona, Michigan and Hawaii related to Utility competitive procurement of renewable energy. Further, I have supported the development of testimony in multiple instances in Ohio related to Utility competitive procurement of renewable energy.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of this testimony is to address the areas identified by the Commission with respect to the implementation of a competitive procurement of renewable energy ("CPRE"). My testimony specifically addresses: 1) CPRE background and types, 2) best practices and primary drivers of CPREs, and 3) the challenges, costs and benefits associated with establishing and administering CPRE programs for the utility and for the ratepayer.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is provided in three sections:

1. CPRE Background
2. Best Practices
3. Challenges, Costs and Benefits

CPRE BACKGROUND

Q. WHAT IS A CPRE?

A. A CPRE is a structured, competitive procurement process that is designed to provide renewable energy to the procuring utility under long-term contracts. CPREs are used to solicit renewable energy for needs identified in a Utility Integrated Resource Plan ("IRP") or in response to specific state renewable energy policy mandates or directives.

Q. CAN A CPRE BE DESIGNED TO ADDRESS A SINGLE TYPE OF RENEWABLE RESOURCE OR DO CPRES ALWAYS CONSIDER MULTIPLE TYPES OF GENERATION RESOURCES?

A. CPREs can take various forms. For example, with an "all-source" CPRE, all types of renewable resources are permitted to bid and compete against one another. The "all-source" integrated evaluation approach is gaining increased adoption. Under this approach, CPRE programs remain neutral to specific types of renewable

energy resource technologies and allow for a thorough evaluation of projects that contribute the greatest net benefit to the utility system and its ratepayers.

There can be, however, a single-source CPRE where only one type of renewable (e.g., wind or solar) resource is being procured. This typically results from a specific state policy directive or a technology-specific resource need.

Q. PLEASE PROVIDE A HIGH-LEVEL OVERVIEW OF THE VARIOUS BIDDING PROCESSES UNDER A CPRE.

A. The bidding process is yet another aspect that varies from program to program. The bidding process can take two forms—a price-auction or a more traditional integrated evaluation. In an auction style procurement, projects that meet minimum qualifications compete on price alone. A comprehensive integrated evaluation includes a qualitative assessment of a proposal in addition to its price.

Q. WHAT NON-PRICE FACTORS SHOULD BE CONSIDERED TO ENSURE A CPRE IS COST-EFFECTIVE?

A. To ensure cost-effectiveness, a CPRE must address a clearly defined system need at a lower effective cost to customers. Non-price factors should be considered because they ultimately have an impact on system reliability and customer costs. Some non-price factors that may be considered when selecting a bid include project

reliability, readiness, locational benefits, financial strength, operating experience, and transmission availability.

Q. WHAT HAVE BEEN THE PRIMARY DRIVERS FOR THE IMPLEMENTATION OF CPRE PROGRAMS?

A. CPRE programs emerged as a cost-effective way for a Utility to procure significant amounts of renewable energy to meet policy objectives on the lowest cost/most reliable basis. CPREs generally allow a specific quantity of renewable energy to be purchased at the lowest competitive price, potentially at prices below the utility's "avoided cost" or other price determination over longer-terms.

Q. CAN CPRES BE STRUCTURED TO WORK IN CONJUNCTION WITH A STATE'S IMPLEMENTATION OF PURPA?

A. Yes. CPREs can also provide a complementary procurement strategy under the Public Utility Regulatory Policies Act of 1978 (PURPA). PURPA is a federal law that, among other things, requires electric public utilities to interconnect with qualifying facilities ("QFs") and to purchase, at the utility's "avoided cost," the power produced by QFs. PURPA delegates to the State Utility Commissions the implementation of these requirements, including establishing standard avoided cost rates and terms and conditions for standard contracts. PURPA sets a price (avoided

cost) and term for small qualifying facilities but does not assure that the QFs meet certain needs of the utility, such as quantity of renewable energy desired, the lowest possible price, or placement of facilities at the optimal locations. In contrast, a CPRE allows for the utility purchase of a specific amount of capacity over a specific term in which the lowest cost bids can be selected, consistent with reliability. In return for participating in a CPRE rather than PURPA, a renewable energy provider competes based on price and non-price, qualitative factors into the CPRE process which ultimately should provide greater customer benefit while also providing greater revenue assurance for project owners.

Q. CAN THE MATURITY OF A STATE'S OR INDIVIDUAL UTILITY'S PURPA IMPLEMENTATION INFLUENCE THE DECISION AS TO WHETHER THE CPRE PROCESS SHOULD BE IMPLEMENTED IN A SPECIFIC JURISDICTION?

A. Yes. I should make clear that a utility's decision to procure through a CPRE process does not relieve or otherwise remove the obligation of the utility to purchase power from a QF through PURPA at avoided cost. In working with other utilities that have high levels of renewable penetration and PURPA contracts—just like DESC—I have seen some state policy makers or regulators effectively implement CPRE in conjunction with PURPA reform policies. This could shape procurement

to better address system needs that either result from the current QF penetration levels or cannot be addressed via the broader mandates of PURPA.

Q. IS CPRE THE ONLY WAY TO PROCURE RENEWABLE ENERGY RESOURCES?

A. No. Along with PURPA, utilities at times will procure specific renewable energy resources, e.g., hydro power, that are either not available on their system, or are not available in sufficient magnitude, after concluding through study that the resource is cost-effective in comparison to other more generic potential alternatives. Additionally, a utility may pilot advanced renewable applications in order to better understand operational functionality and system benefits.

BEST PRACTICES

Q. WHAT ARE SOME BEST PRACTICES FOR CPRES?

A. Based on my experience administering and monitoring CPRE programs in nine states, I have observed the following best practices which will be addressed in my testimony:

1. CPREs should be driven by resource needs and plans identified in the Utility IRP process.

2. CPREs should be open to all technologies that meet operational, reliability and other identified resource requirements unless otherwise driven by specific policy goals.
3. CPREs should encourage wide participation to promote competition and maximize customer benefit.
4. CPREs should include appropriate oversight to ensure fairness and transparency.
5. CPRE evaluations should consider all system costs and benefits to ensure that projects are providing net benefits to utility customers.

RESOURCE TARGETS AND TIMING BEST PRACTICES

Q. WHAT PROCESS SHOULD BE USED TO DEFINE THE RESOURCE TARGETS IN A CPRE PROGRAM?

A. The procurement of any resource, including renewable energy, is designed to ensure the procurement is cost effective and tailored to system needs—whether by system location, resource need date, or other considerations for optimally serving ratepayers. This further illustrates the need to coordinate a CPRE with the IRP process. An IRP will identify the most economic and reliable capacity expansion plan that will meet future utility demand and any applicable resource objectives (e.g., RPS), based on specific resource cost assumptions and operational characteristics. Where the needs identified in an IRP can be met through renewable

energy, they can then be procured through a CPRE. This is particularly applicable when there are substantial renewable resources already in operation (e.g., through PURPA), as the IRP is needed to assure that additional renewables will be cost effective.

Q. IS IT A BEST PRACTICE TO ENSURE THAT A CPRE IS NEUTRAL BETWEEN RENEWABLE RESOURCE ALTERNATIVES?

A. Yes. An IRP will identify potential targets under a range of renewable buildout scenarios considering different renewable resource types (for example, solar, wind, with/without storage, etc.). The choice of renewable energy to be procured should be technologically neutral, unless there is a state policy goal driving the choice of renewables. In such case, the state policy can also be incorporated into the IRP process to better ensure appropriate timing and amounts.

For example, in the state of Hawaii, standalone intermittent renewable resources were not likely to be economical due to interactions with existing system resources which in turn made it difficult to achieve the state's 100% RPS target. Accordingly, the IRP[1] and subsequent solicitations identified a need from both a policy and reliability perspective for "dispatchable" renewable generation, which required any solar or wind to also include on-site storage.

[1] Known as the "Power Supply Improvement Plan", available at https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning/power-supply-improvement-plan

Q. WHAT DO YOU CONSIDER TO BE BEST PRACTICE FROM A TIMING PERSPECTIVE?

A. CPRE timing should align with an adopted IRP. The IRP will evaluate the relative merits and risk factors of procuring specified amounts of renewables in the near term or longer term. Even where renewables may be cost effective to include in the near term, there is a risk that over-procurement may reduce a Utility's flexibility over the long-term to address unforeseen circumstances and challenges or to take advantage of technological advancements. These planning complexities are typically examined in an IRP.

PARTICIPATION AND TRANSPARENCY BEST PRACTICES

Q. HOW CAN CPRE BE DESIGNED TO ENCOURAGE WIDE PARTICIPATION?

A. CPREs should include participation from both third-party project owners and utilities, each of which offer specific strengths that can influence project costs and benefit customers. Entities should be required to meet minimum threshold requirements (e.g., financial viability, technical experience and qualifications, project readiness) to be permitted to bid into a CPRE. These threshold requirements would be vetted and confirmed during the CPRE stakeholder process. As the goal

of competitive procurement is to secure the best value possible for the utility and its ratepayers, allowing for utility involvement in a competitive solicitation has certain advantages. In certain instances, there are potential projects that can only be advanced by the Utility due to impracticalities relating to the transfer of Utility-controlled or owned real estate and interconnection rights. CPREs should also allow for a variety of ownership structures including third-party Purchase Power Agreements (with and without post-ITC buyout options) and Utility ownership (Self-Build, Build-Own-Transfer (BOT), EPC).

Q. WHY SHOULD A UTILITY ENGAGE WITH INTERESTED STAKEHOLDERS WHEN IMPLEMENTING A CPRE?

A. There are many concerns and observations that can be raised by interested parties and addressed by a Utility during a process which allows for feedback prior to final issuance. From a structural best-practices perspective, it is better to address problems prior to the commencement of a program or procurement than for a Utility to issue addendums during the actual process. Furthermore, providing the opportunity for initial feedback can allow developers to provide input that can lead to ultimately better pricing for ratepayers. It has been my experience that developers have flagged items for consideration that they view are unduly burdensome, present excessive risk, or have significant cost implications. Raising these concerns

beforehand provides the Utility an opportunity to evaluate whether such requirements can be modified in the interest of fostering price competition. Overall, providing for a review process prepares the market for the upcoming RFPs, helps address competitive concerns, and increases overall transparency in the process.

Q. HOW CAN A UTILITY ENSURE A LEVEL PLAYING FIELD FOR ALL PARTICIPANTS?

A. Utilities should adopt general procurement guidelines for the conduct of RFPs, ensuring that decisions are rendered with integrity, transparency, and fairness. To ensure a consistent and fair evaluation, Utilities should typically adopt an evaluation guide that sets the course for the qualitative and quantitative evaluation prior to evaluation of bids. To bring additional transparency to the process, an appropriate level of oversight should be part of the process. To promote a level playing field for all competitors, CPRE participants should be provided access to all bid documents at the same time while also employing separation protocols that isolate proposals from Utility personnel that may be submitting a competing bid in the solicitation.

Q. PLEASE BRIEFLY DESCRIBE THE ROLE THAT INDEPENDENT OVERSIGHT PLAYS IN A CPRE.

A. There are a number of terms used in the industry to describe independent oversight, and likewise there is no consistency in the definition of the roles. For example, some programs refer to an Independent Evaluator, an Independent Administrator, or an Independent Monitor. Generally, whichever term is used, the actual scope of oversight falls within two general approaches. One approach is to secure what is known as an "Independent Administrator" or IA. An IA manages and executes the entire evaluation and selection process independently from the Utility. The other approach is the use of an "Independent Monitor" or IM. An IM provides overall oversight of the Utility's design and development of an RFP, the evaluation of bids, and final selection. The purpose of an IM is to ensure that the RFP, as designed and conducted, does not confer any unfair advantage or disadvantage to any qualifying technology, interested party or respondent, and is conducted fairly and consistently.

Q. WHAT HAS BEEN YOUR EXPERIENCE WITH THE APPROACHES TO CPRE INDEPENDENT OVERSIGHT?

A. Effective CPRE programs require Utility involvement to properly review, evaluate and select projects that create the most customer benefits. The use of an IA, as I have defined it above, is not practical except for narrowly defined solicitations with clear, established mechanical rules for qualifying and selecting

bids. An IA is generally not well equipped to conduct the in-depth qualitative and quantitative analysis required for a more integrated, all-source RFP. For example, evaluating local environmental compliance, permitting, site considerations, and interconnection requirements typically requires a level of expertise that only the issuing Utility has. Furthermore, the level of detailed modelling required to conduct an all-source RFP generally requires the Utility's expertise and unique understanding of its system needs involved in the development of the Utility's IRP and system modelling. While third-party system modelling is possible, it can be prone to error without significant benchmarking and extensive utility involvement. In my experience, the use of an IM is a better and more cost-effective approach. Rather than conduct the evaluation, the IM's goal is to ensure that the process is fair, consistent and transparent, and does not confer any unfair or undue advantage to a party or technology.

Q. PLEASE EXPLAIN HOW YOUR EXPERIENCE INFORMS YOUR COMMENTS.

A. I have served as an Independent Observer, Independent Monitor, Independent Evaluator, and Independent Auditor. These roles were defined in accordance with the definition I have provided with respect to an Independent Monitor role. I have also served as an Independent Evaluator and Solicitation Manager, in a role aligned with the definition I

have provided with respect to the Independent Administrator role noted above. My recommendations reflect my firsthand experience working in these roles.

Q. HOW CAN A UTILITY DEMONSTRATE THAT THE CPRE PROCESS IS SUFFICIENTLY TRANSPARENT?

A. Utilities can and do allow for stakeholder involvement and provide substantial feedback to the market regarding procurement results. Based on my experience with CPREs, a few best practices with respect to transparency include:

- A draft solicitation review process.
- A public report issued by the Utility that provides statistics on the participation, volume and range of prices received in response to the solicitation, including further information on the successful parties.
- A public report issued by the IM that provides feedback on the clarity, fairness, and transparency of the RFP process.

Q. WHAT EVALUATION METHODS SHOULD BE UNDERTAKEN TO ENSURE THAT A CPRE ULTIMATELY LEADS TO RATEPAYER BENEFITS?

A. CPRE evaluations should consider the impact of the project on all system costs to ensure that projects are providing system benefits and not increasing costs to ratepayers. In addition, the evaluation should consider other qualifications that

will help ensure the projects will achieve commercial operation as evaluated. CPRE projects that are confirmed to provide ratepayer benefits should be evaluated thoroughly on overall quality which provides reasonable assurance that such proposals will reach commercial operation. Projects that are selected without thorough qualitative analysis have a higher chance of failure and accordingly delays identified ratepayer benefits, particularly when competitive alternative proposals could have achieved commercial operation and delivered such benefits in the place of the failed project.

Q. WHAT COSTS AND BENEFITS SHOULD BE CONSIDERED IN DERIVING THE NET BENEFITS OF BIDS IN A CPRE?

A. The evaluation of CPRE bids must reflect all applicable costs and all applicable benefits, in order to derive its net benefits, if any. Costs include the contract energy price, system integration costs incurred, ongoing administrative costs and the cost of any transmission system upgrades that must be made to support the new potential resource. Benefits include the reduction in utility dispatch costs from the energy provided and the value of any capacity provided. Because aggregate dispatch savings and capacity value are dependent on the make-up of the portfolio of bids evaluated and ultimately selected, the aggregate net benefits from a CPRE must

reflect the interdependencies between the portfolio of accepted bids which potentially impact the aggregate costs and benefits.

CHALLENGES, COSTS AND BENEFITS

Q. ARE THERE SIGNIFICANT COSTS ASSOCIATED WITH A UTILITY ESTABLISHING A CPRE?

A. Yes. The complexity of these processes, the resulting need for various specialization and time required all result in substantial costs. To properly execute a solicitation process, utility staff from a number of departments and functions will need to be involved, including legal, engineering, environmental, permitting, system modelling, interconnection, and finance. There are also several administrative functions that will need to be maintained throughout the program. In addition, third-party consultants may be needed to review certain technical and financial information provided in proposals. The overall process is labor intensive. The time frame for each solicitation is also significant. CPRE solicitations can take up to a year to execute from start-to-end. This allocation of personnel and hiring of advisors translates into a significant added cost burden to the Utility. Some of this cost can be offset by requiring bidder fees for resources bidding into the CPRE.

Q. WHAT POTENTIAL CHALLENGES COULD ARISE WHEN MANAGING THE CPRE PROCESS?

A. A competitive procurement program may be challenging to manage from a contract management, grid-interconnection and integration perspective, depending on the number of projects that are expected to participate. Comparative evaluation of the bids received in response to the CPRE is another challenge that requires a thoughtful design of the solicitation and the threshold of information each bidder is required to provide in its proposal. For example, information can include data representative of each proposed renewable energy project (e.g., hourly projected data). Depending on the design of the CPRE, multiple studies may be required to properly allocate costs and ensure projects meet the defined price threshold. Qualitative factors such as credit worthiness, project permitting, site control, engineering review and project team experience are also typically evaluated in a CPRE, depending on its design.

Q. OVERALL, WILL THERE BE MONETARY SAVINGS RESULTING FROM THE ESTABLISHMENT OF A CPRE PROGRAM?

A. Unfortunately, this answer depends on numerous factors which all require careful analysis and execution. You must first consider why the CPRE is needed. Is it to promote adoption, fulfill a need, spur an industry? Additionally, the response

from the market and the opportunities that exist on a system to cost effectively integrate additional renewable energy are important factors. To the extent that projects are bid below the Utility's avoided cost, or otherwise reduce its overall system revenue requirements—which includes a consideration of variable integration and transmission-related costs—then there could be monetary savings realized under a CPRE program. However, this would need to be assessed against the opportunity that may have been lost to put in place other potential resources that may have reduced costs even more. An IRP is the best method for ensuring that the optimal set of resources are being obtained and yielding the most cost-effective outcome across all alternatives.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.